



Amendments to the Specification:

Please amend the specification as follows:

Please replace paragraph [0033] with the following rewritten paragraph:

[0033] To test the application of the detection method to the important problem of biological detection, experiments were performed in which gold microelectrodes 22 embedded in PDMS (with the ends exposed) were chemically modified with two different sequences of DNA. The first electrode was modified with DNA having the sequence 5'-HS-C₆H₁₂-T₁₅AACGATCGAGCTGCAA3' ([S1] **SEQ ID No: 1**), while the second was modified with the sequence 5'-HS-C₆H₁₂-T₁₅AACGATGCAGGAGCAA3' ([S2] **SEQ ID No: 2**). These oligonucleotides, which have a 4-base difference between them, were bonded to the gold surface using chemistry described in Brockman, et al., "A multi-step chemical modification procedure to create DNA arrays on gold surfaces for the study of protein – DNA interactions with surface plasma on resonance imaging," J. of Am. Chem. Soc., Vol. 121, No. 35, 1999, pp. 8044 et seq.

Please replace paragraph [0034] with the following rewritten paragraph:

[0034] The cell was filled with SSPE buffer, 2X, consisting of 300mM NaCl, 20 mM sodium phosphate and 2 mM EDTA, and the response was measured. The cell was then flushed and filled with 5 μM 5'TTGCAGCTCGATCGTT3' ([S3] **SEQ ID No: 3**), which represents a perfect match with [S1] **SEQ ID No: 1** and a four-base mismatch with [S2] **SEQ ID No: 2**. After allowing 20 minutes for hybridization to occur, the solution was replaced with the buffer, and the response was again measured.